

A Typical Presentation of Pulmonary Hydatid Cyst - A Case Report

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Abstract: A 65yr old male patient presented with left sided chest pain for 3 months. He also had shortness of breath on moderate activity for a month. Clinical examination revealed decreased air entry over the left side of the chest. Chest X - ray and CT chest showed left upper lobe emphysematous bullae. The patient underwent left thoracotomy which revealed HYDATID CYST left upper lobe of the lung and was excised and sent for histopathological examination. Postoperatively the patient was put on ALBENDAZOLE (10mg/kg/day) for 6 months to prevent the recurrence of the disease.

Keywords: Hydatid cyst

1. Introduction

Echinococcosis is a rare infectious disease of human beings that occurs in the larval stages of Taeniidaecestodes of the genus Echinococcus. Till now six species have been identified, of which four are pathogenic: Echinococcus granulosus [responsible for cystic echinococcosis (CE)], Echinococcus multilocularis—most virulent species (responsible for alveolar echinococcosis), Echinococcus shiquicus found in Tibet, and Echinococcus felidis, in African lions, are the other species which have no zoonotic transmission potential. Echinococcosis continues to be a major community health burden in several countries, and in some terrain, it constitutes an emerging and re-emerging disease. CE is the most common human disease of this genus and it accounts for >95% of the estimated 2 - 3 million cases worldwide. In cystic echinococcosis, humans are accidental hosts and are usually infected by handling an infected dog. The liver and lungs are the most frequently involved organs. The pulmonary disease appears to be more common in younger individuals. Although most patients are asymptomatic, some may occasionally expectorate the contents of the cyst or develop symptoms related to compression of the surrounding structures. Other symptoms of hydatid disease can result from the release of antigenic

material and secondary immunological reactions that develop from cyst rupture.

2. Case Report

A 65 - year - old male patient came from a rural area with a chief complaint of chest pain since 2019, presented to hospital with left - sided non - radiating chest pain aggravated on bending and leaning forward associated with shortness of breath for 3 months. No history of cough/Fever/nausea/vomiting. Patient had history of contact with domestic animals and/or farm animals (sheep). The patient did not report any change in bowel habits or urinary symptoms. No history of intake of long - term Anti - parasitic medication.

No history of hypertension / diabetes/ coronary artery disease / bronchial asthma / tuberculosis.

The patient was a chronic smoker and non - alcoholic.

On respiratory examination, the lungs were found to be clear with decreased air entry on the left side. On percussion dull note is present on the affected side. Fine crepitations were noted on auscultation.

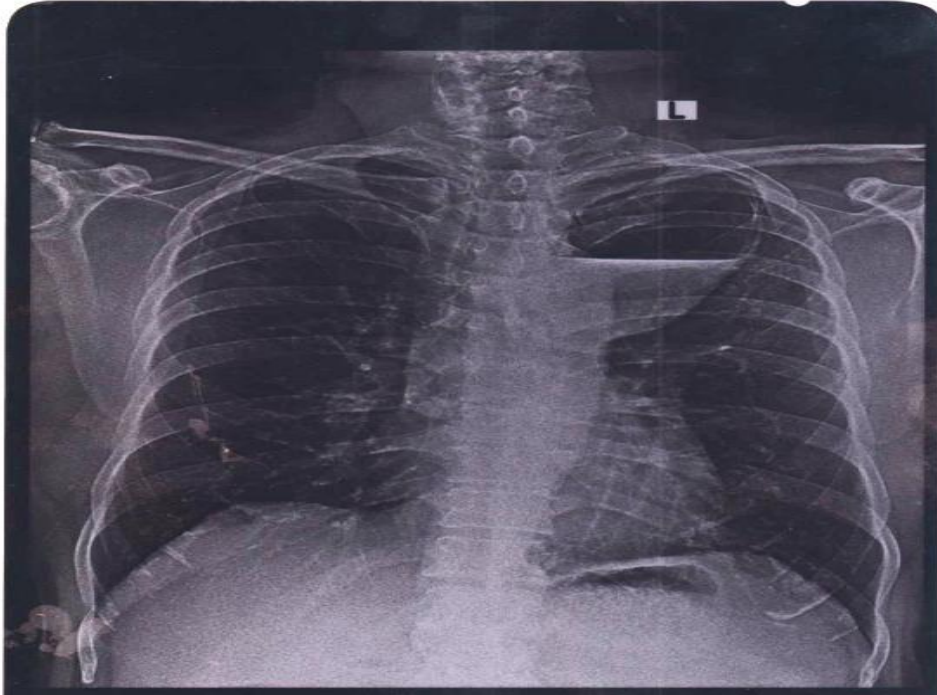


Figure 1: CHEST X RAY showing well - defined air - fluid level lesion in the left upper lobe of the lung.

CECT CHEST: showed a well - defined thick walled lesion with air - fluid level of size measuring approximately 10.7*7.4*6.8 cm in the apical, anterior and posterior segment of the left upper lobe of the lung with adjacent fibrotic strands. (Figure 2.1, 2.2, 2.3)

Paraseptal emphysematous changes in bilateral upper lobes.



Figure 2.1: CECT chest showing paraseptal emphysematous changes in bilateral upper lobes.



Figure 2.2: CECT chest showing well - defined thick walled lesion with air - fluid level.

3. Procedure

Left - posterolateral thoracotomy was done through the left 6th intercostal space. Pleura opened under one - lung anaesthesia. Adhesions were released from the apex and the upper lobe. Adherent pearly white hydatid cyst, size of 10*5 cm occupying the left upper lobe with Hydatid fluid and sediment seen through the cyst wall. (Figure 3.1, 3.2, 3.3) Multiple small emphysematous bullae are seen in the rest of the lung. Betadine mops were placed around the cyst. Gentle dissection was done around the peri cyst layer and the cyst was delivered into the waiting bowl. Betadine and hydrogen peroxide lavage was done to the pleural cavity. No air leak, entire lung well expanded. Haemostasis achieved. Two drains were kept in the pleura. The intercostal block was given with 0.5% Bupivacaine. Peri costal suture taken with 5 - ethibond. Muscles closed two layers wise with 1 - Ovicryl. Specimen sent for HPE.

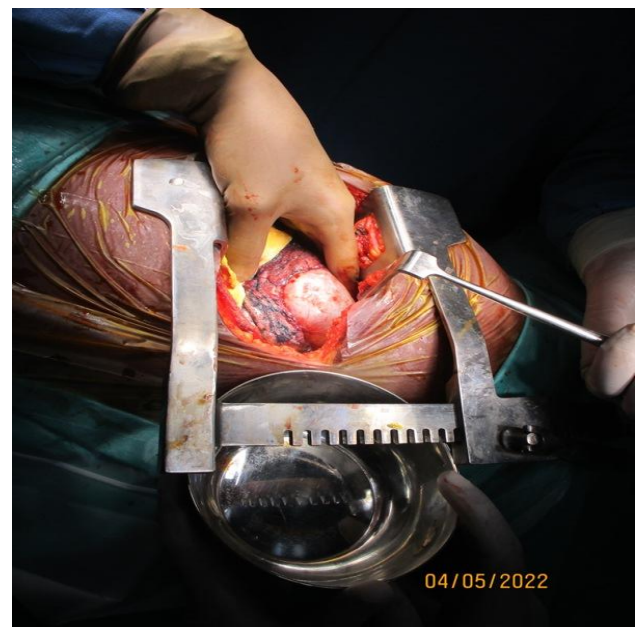


Figure 3.1: Image showing the opening of thorax and presence of Hydatid cyst

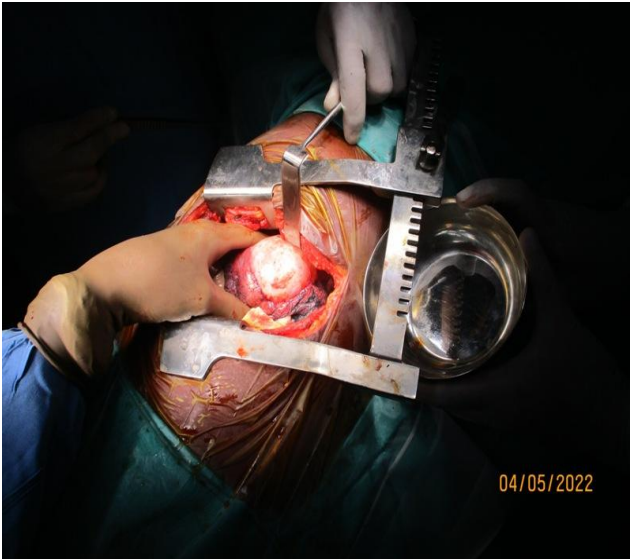


Figure 3.2: Hydatid cyst over a left upper lobe of the lung

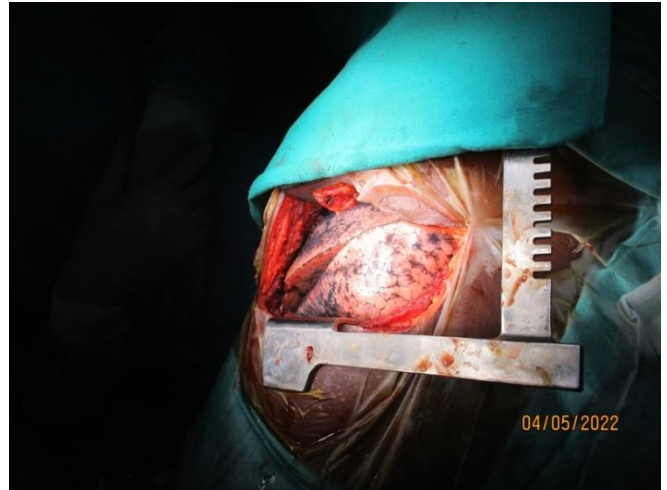


Figure 4: Lung expansion after enucleation of left upper lobe Hydatid cyst



Figure 3.3: Enucleated Hydatid cyst

Histopathology Report: Sections from solidified cyst content show acellular eosinophilic chitinous material admixed with indiscernible disintegrated protoscoleces - FEATURES SUGGESTIVE OF “**HYDATID CYST**” (ECHINOCOCCUS CYST – LUNG)



Figure: 5.1: Microscopic visualisation of protoscolex

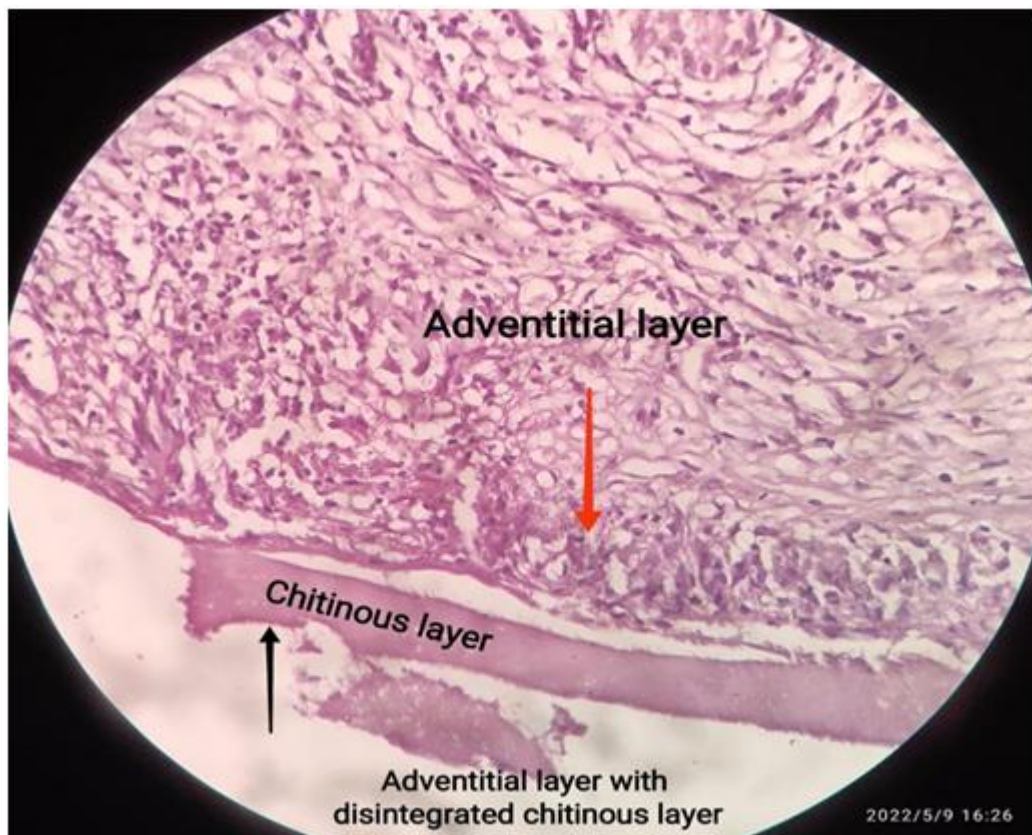


Figure: 5.2: Histopathological slide showing eosinophilic chitinous material admixed with indiscernible disintegrated protoscoleces



Figure 6: Post Operative X - RAY after 2 weeks showing well expanded lungs with no residual cyst.

4. Discussion

Hydatid cysts (HC) has a worldwide distribution and is health problems in endemic area such as the Mediterranean region, Asia, Australia, New Zealand, South America, Turkey, Greece, and southern Europe. It is most prevalent in sheep - and cattle - breeding countries, where the first step in the transmission chain of this infestation occurs. Humans may contract the infection either by direct contact with a dog which is the definitive host; or by ingestion of foods or fluids contaminated by the eggs, which are contained in the faeces of the dog. After ingestion, the eggs lose their coating and larvae penetrate the mucosa of the proximal portion of the jejunum and reach through the venous and lymphatic channels to every region of the body where they transform into small cysts. (HC) mostly affects the liver (75%) and the lungs tissue (15%). About 60% of pulmonary hydatid cysts occur in the lower lobes of both lungs. Bilateral pulmonary (HC) accounts for 4% to 26.7% of all cases of pulmonary (HC), and multiple cysts in 30% of cases. The (HC) of organs may remain asymptomatic for a long time. During the growth and enlarging, the cysts may rupture in the tracheobronchial system or pleural space and patients complain of cough, expectoration of membranes, dyspnoea, haemoptysis, and chest wall pain in cases of pulmonary cysts. In most uncomplicated cases of pulmonary (HC), lung cysts are incidental finding or the patient may present with dry cough, dyspnoea, and chest pain. In rupture cysts, remnants of the collapsed parasitic membrane are left in the cavity as a source of recurrent infection. Such patients present with expectoration of hydatid fluid and remnants of the parasitic membrane, recurrent haemoptysis, purulent

sputum, fever, or a combination of some or all of these symptoms. Expectoration of cystic contents can lead to severe complications, such as asphyxia, acute respiratory failure, massive haemoptysis, and complications of pulmonary hydatid cysts include rupture, secondary infection, pneumothorax, and suppuration. Patients may develop sudden onset of chest pain, cough, fever, and haemoptysis after cyst ruptures, urticaria and wheeze to anaphylaxis are the predominant symptoms in the majority of series. Other symptoms of pulmonary hydatid cysts include, cough, chest pain, breathlessness, expectoration, fever, haemoptysis, and anaphylactic phenomena. The most serious complication of pulmonary hydatid cyst is a secondary bacterial infection. Our case presented with a productive cough, dyspnoea, chest pain and night sweating. The percutaneous aspiration of cyst can establish the diagnosis of (HC) by demonstrating the protoscolices, hooklets or laminated membranes, but it is too risky for routine diagnosis of lung cyst because spillage of content leads to life - threatening anaphylaxis. The percutaneous aspiration for diagnosis of hydatid cyst is not a diagnostic approach in our area. A definitive diagnosis could be made by the extraction of laminated membranes or histologically by demonstration of parasites in excised tissue. The treatment of choice for (HC) is surgical excision or evacuation of the cyst. In our patient, we used one lung anaesthesia and with complete Right lateral position, a sixth intercostal space was opened and exploration was performed. Scolicidal agents such as hypertonic saline, povidone - iodine, formalin, cetrimide, ethanol, and hydrogen peroxide can be used intraoperatively. The diagnosis was confirmed with thoracotomy and open biopsy.

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The patient was successfully managed by albendazole. Vaccination has a great potential in containing the transmission of echinococcosis in future.

5. Conclusion

CE is a zoonotic parasitic disease with a global existence. This patient has been presented for publication because he has an unusual presentation of vague chest pain and dyspnoea and the chest x - ray and CT scan findings including the clinical examination suggested emphysematous bullae. He was also an elderly person with H/O chronic smoking which also was in favour of a preoperative diagnosis of Emphysematous bullae but intra - operatively the clinical and Radiological findings were belied and it was a surprise to Hydatid cyst, since the presentation was atypical of a Hydatid, we decided to publish this as a case report, to be aware of similar presentations of Hydatid cysts in the lung and elsewhere in the body.

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